a second optical coupler inserted between said first and second optical amplifiers; and

a first control circuit for outputting first and second control signals for switching a gain of said first and second optical amplifiers.

7. (Amended) The optical switch according to claim 1, further comprising:

a third optical amplifier connected to said second optical amplifier with said second optical coupler, and which includes:

a third erbium-doped fiber; and

a third optical pumping source connected to said third erbium-doped fiber with a third optical branch.

15. (Amended) The optical switch according to claim 1, wherein said first pumping source generates a pumping light whose wavelength is in a 980 nm wavelength region to be inputted to said first erbium-doped optical fiber.

20. (Amended) An optical switch for a wavelength-division multiplexed light which is obtained by wavelength-division multiplexing a plurality of light signals, said optical switch comprising:

an optical wavelength demultiplexer for demultiplexing said wavelength-division multiplexed light into said plurality of light signals and outputting each of said plurality of light signals to each of a plurality of branches;

a plurality of single wavelength optical switches, each being connected to each of said plurality of branches; and

an optical wavelength multiplexer for multiplexing the lights outputted from said plurality of single wavelength optical switches,

wherein each of said plurality of single wavelength optical switches comprises:

a first optical amplifier;

a second optical amplifier connected in cascade to said first optical amplifier;

a control circuit for outputting first and second control signals for switching a gain of said first and second optical amplifiers;

a first optical coupler connected to an input of said first optical amplifier; and

a second optical coupler inserted between said first and second optical amplifiers,

wherein each of said plurality of single wavelength optical switches comprises:

a first optical amplifier which includes:

a first erbium-doped fiber; and

a first optical pumping source connected to said first erbium-doped fiber with a first optical branch;

a second optical amplifier connected in cascade to said first optical amplifier, and which includes:

a second erbium-doped fiber; and

a second optical pumping source connected to said second erbium-doped fiber with a second optical branch;

a first optical coupler connected to said first optical amplifier;

a second optical coupler inserted between said first and second optical amplifiers; and

a first control circuit for outputting first and second control signals for switching a gain of said first and second optical amplifiers.

23. (Amended) The optical switch according to claim 1, further comprising:

a signal light detector for detecting whether or not a signal light is inputted to said first optical amplifier and then outputting the result of the detection as a detect signal,

said first control circuit for providing said first and second optical amplifiers with control signals for shutting down said first and second optical amplifiers, when said detect signal is inputted to said first control circuit to indicate that said signal light is not inputted to said first optical amplifier.

Please add the following new claims:

–32. The optical switch of claim 1, wherein said second coupler is for receiving input light to increase a power of said input signal.

33. The optical switch of claim 20, wherein said second coupler is for receiving input light to increase a power of said input signal.

~~34. The optical switch of claim 1, wherein when pumping light of said first optical pumping~~ source is turned off by controlling the control circuit, a second optical signal is inputted from an input optical transmission line upstream of said second optical amplifier, and outputted from a second optical transmission line coupled downstream of said second optical amplifier, such that a drop-and-add mode is obtainable with said second optical coupler.

35. The optical switch of claim 20, wherein when pumping light is turned off by controlling the control circuit, a second optical signal is inputted from an optical transmission line, and outputted from a second optical transmission line, such that a drop-and-add mode is obtainable with said second optical coupler.

36. An optical signal switching method comprising:

inputting a first optical signal to a first erbium-doped fiber;

inputting a second optical signal to said first erbium-doped fiber from a first optical pumping source;

selectively inputting a second optical signal to a second erbium-doped fiber, operatively coupled to said first erbium-doped fiber, from a second pumping source;

outputting said optical signal from said second erbium-doped fiber; and

controlling a control circuit to selectively input a third optical signal to said second erbium-doped fiber instead of said inputting said second optical signal to said first erbium-doped fiber.

37. The method of claim 36, further comprising:

amplifying said optical signal by said first erbium-doped fiber.

38. The method of claim 36, further comprising:

amplifying said optical signal by said second erbium-doped fiber.

39. An optical signal switching circuit, comprising:

a first erbium-doped fiber for receiving a first optical signal;

a first optical pumping source for inputting a second optical signal to said first erbium-doped fiber;

a second pumping source for selectively inputting a second optical signal to a second erbium-doped fiber operatively coupled to said first erbium-doped fiber, said second erbium-doped fiber outputting an output optical signal; and

a control circuit for controlling said first and second optical pumping sources for selectively inputting a third optical signal to said second erbium-doped fiber instead of inputting said second optical signal to said first erbium-doped fiber.

40. The optical switching circuit of claim 39, wherein said first erbium-doped fiber amplifies said optical signal.

41. The optical switching circuit of claim 39, wherein said second erbium-doped fiber amplifies said optical signal.--